

Agricultural University, Anand Campus, Anand for providing necessary facilities.

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REFERENCE

NAIK, R. M. & MISTRY, L. (1980): Breeding season in a tropical population of the House Sparrow. *J. Bombay nat. Hist. Soc.* 75: 1118-1142.

26. RECORD OF NEW ALTERNATE HOST PLANTS OF SPINY BOLLWORM *EARIAS INSULANA* BOISDUVAL

Spotted bollworms are considered to be the most destructive pests of cotton and okra under Indian conditions. Among them, *Earias vittella* (F.) and *E. insulana* (Boisd.) cause considerable damage to both these crops. Besides cotton and okra, they are known to attack many other malvaceous plants (Khan *et al.* 1946 and Bilapate 1983). Since not much is known as to how these two bollworms survive during the off season in the Northern cotton growing belt of the country, an intensive survey was made during the off season, i.e. from December, 1984 to April, 1985 in various agricultural farms and farmer's fields around Hisar.

Among the various malvaceous plants surveyed, *Abutilon indicum* (L.), *Hibiscus rosasinensis* L., *Althaea rosea* L. *Malope trifida* (Cav.), *Dombeya spectabilis* (Bojer) were found to be alternate host plants of the spiny bollworm in this region. Of these, *M. trifida* and *D. spectabilis* were recorded to be the

most favoured alternate host plants of *E. insulana*. On an average, 3 eggs and 3 larvae/50 fruits of *M. trifida* were recorded during February-March, 1985 from the field and fruit damage on this host plant was recorded to the extent of 8.0 per cent. Similarly, 8.0 eggs and 2.6 larvae/50 fruits were noticed on *D. spectabilis* and fruit damage on this tree was upto the extent of 11.3 per cent. Eggs and larvae brought to the laboratory from these host plants were successfully reared on them to the adult stage. It is, therefore, concluded that *M. trifida* and *D. spectabilis* are the new alternate host plants of *E. insulana* in this region. Perusal of literature reveal that these plants have been previously reported as the host plants of the spiny bollworm.

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MISCELLANEOUS NOTES

REFERENCES

- BILAPATE, G. G. (1983): Spotted bollworm, *Earias* spp. on cotton in India. A Review. *Agric. Rev.* 4(2): 95-107.
- KHAN, H. M., LADHA RAM, SHARMA, G. R. & SHANI, A. M. (1946): Studies on *Earias* species (The spotted bollworm of Cotton) in the Punjab. IV. The host and host preference of *Earias cupreoviridis* Wlk. *E. fabia* Stoll and *E. insulana* Boisd. *Indian J. agric. Sci.* 15(5): 275-280.

27. FIRST RECORD OF *COCCINELLIMERMIS* RUBTZOV (MERMITHIDAE) FROM INDIA

Though many species of Coccinellids are parasitized by nematodes (Richerson 1970), *Coccinella septempunctata* L., an aphidophagous species, has been found to harbour *Parasitylenchus coccinellae* (Iperti and Van Waerebeke 1968), *Mermis coccinellae* Dies and *M. nigrescens* Duj (Richerson 1970). Information on the parasites of *C. septempunctata* is rather scant in India.

During the course of collection and rearing of *C. septempunctata* in May to August 1981, the lady bird beetles were noticed to be parasitised by nematodes. Nine nematodes emerged from the abdominal region of *C. septempunctata* as has been shown to occur in the case of the larva of *Perilitus coccinellae* Schrank (Hodek 1973). Four of them emerged through the membranes between 2nd and 3rd, three between 5th and 6th and two between 6th and 7th abdominal tergites. The time taken by the worms to come out was between 12 and 29 minutes. The length and breadth of the nematodes ranged from 9.2 to 11.1 cm and 0.62 to 0.92 cm respectively, the average length and breadth being 10.02 ± 0.57 cm and 0.71 ± 0.11 cm respectively. The weight of the worms ranges from 3.8 to 8.6 mg, the

average weight being 6.4 ± 1.71 mg.

The nematode worms were identified by Prof. D. J. Hunt of Commonwealth Institute of Parasitology as juveniles of *Coccinellimermis* Rubtzov 1978. In a personal communication dated March 31, 1982, he wrote as follows: "The nematodes are juvenile mermithids of the genus *Coccinellimermis* Rubtzov. Adult stages are unknown. However, if you find further specimens emerging from Coccinellids, they can be placed in a tube containing damp sand and left for several weeks to enable the nematodes to moult to the adult stage before preservation. *Coccinellimermis* belongs to the Mermithidae."

Out of 634 beetles collected during the months of May to August, 1981 only 10 showed nematode infection, i.e., 1.57%. Prior to the escape of the worms the lady bird beetles show hyperactivity for about 30 to 50 minutes.

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